US008285372B2

(12) **United States Patent**
Sing

(10) **Patent No.: US 8,285,372 B2**
(45) **Date of Patent: Oct. 9, 2012**

(54) **ALERTNESS/DROWSINESS AND COGNITIVE CAPACITY INDEX**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 894 days.

(21) Appl. No.: **12/339,864**

(22) Filed: **Dec. 19, 2008**

(65) **Prior Publication Data**

US 2009/0149770 A1 Jun. 11, 2009

Related U.S. Application Data

(63) Continuation-in-part of application No. PCT/US2007/014541, filed on Jun. 22, 2007.

(60) Provisional application No. 60/823,172, filed on Aug. 22, 2006, provisional application No. 60/815,565, filed on Jun. 22, 2006.

(51) **Int. Cl.**
A61B 5/04 (2006.01)

(52) **U.S. Cl.** **600/544**

(58) **Field of Classification Search** 600/544, 600/545

See application file for complete search history.

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(57) **ABSTRACT**

The invention includes a method and system for providing an Index representing the alertness state of an individual based at least in part on EEG signals obtained from the individual. In at least one embodiment, the EEG signals are divided into frequency bands and a total amplitude of the power is determined. Based on the proportion of the high frequency band compared to the proportion of the low frequency band, an Index is determined that is indicative of an individual's ability to perform a cognitive task.

28 Claims, 15 Drawing Sheets